

**HIGH TEMPERATURE AND HIGH PRESSURE COMPRESSOR PISTON  
RING**

**ABSTRACT OF THE DISCLOSURE**

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[0047] A piston ring for use at temperatures above 350°F at pressures greater than or equal to about 2000 psi, comprising a gap having a gap width about 1.4 to about 2.0 times greater than a thickness of the piston ring; a height about 4.5 to about 6.4 times larger than the thickness, and a leading edge  
10 characterized by an arc having a radius of curvature of less than or equal to about 4 times the height. The piston ring may be formed of a material comprising cobalt, chromium, tungsten, and carbon. A gas compressor and method of sealing a piston using the above piston ring is also provided for.